

C O L O R A D O

# House Plant Tips



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# Introduction

Growing plants indoors can be a fascinating hobby or satisfying career, whether you are a skilled gardener or new to the world of plants. Many plants are available for indoor gardening through various sources, such as the local greenhouse or nursery, or the grocery store.

The indoor environment in Colorado can be harsh for many plants. Certain plants native to the humid, tropical rainforest may require special consideration in a Colorado home; whereas, many plants native to arid, desert conditions may thrive with our low humidity. Most plants do not adapt and grow well indoors. One can consider themselves successful if a plant remains healthy for more than six months.

## Light

Light is the single most important factor in successful indoor gardening. Plants use light as energy to make food through photosynthesis. Photosynthesis is the process that the plant uses to convert carbon dioxide and water, in the presence of light and chlorophyll to sugar. Even though all plants require light, not all require the same amount of light. Generally, the more light a plant receives, the more food it can make. When a plant receives less light than it needs, the food reserves are depleted, plant health declines and it may die.

If a plant has variegated foliage, the variegation will become brighter with increased light over time. Old leaves will not become brighter, but new growth will. Successful indoor gardening depends largely on choosing the proper plants that grow in the amount of light present.

### Interior Light Conditions

#### Low Light Situations (L)

- Within 2 feet of north glass, October through March.
- Two to 6 feet back from or 1 foot to the side of south glass, April through September.
- Six to 10 feet back from or 1 foot to the side of south glass, April through September.

#### Medium Light Situations (M)

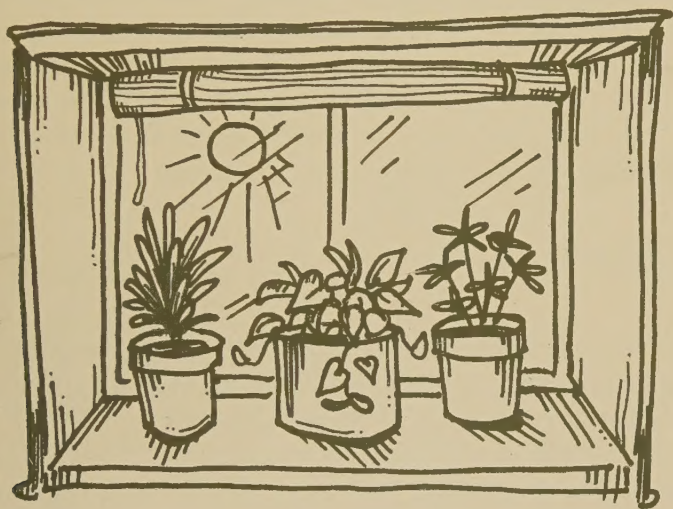
- Within 2 feet of north glass, April through September.
- Two to 6 feet back from or 1 foot to the side of an east or west glass all year.
- Two to 6 feet back from or 1 foot to the side of south glass all year.
- Typical office lighting (fluorescent) for 10 to 14 hours per day.

#### High Light Situations (H)

- Within 2 feet of south glass, October through March.
- Within 2 feet of east or west glass all year.
- Areas receive direct sun for four to six hours daily.

*Light intensity.* Light intensity is the amount of light a plant receives, the brightness or level of light and typically measured as foot candles. The light intensities of indoor areas generally are low, medium or high. High intensities are 1,000 or more foot candles, medium is 500 to 1,000 foot candles, and low is 50 to 500 foot candles. An intensity of less than 50 foot candles is considered critical, since few plants tolerate such low levels for long. (See Table on page 15.)

*Available light.* Do a quick tour of the home, apartment, or office and observe the areas where plants are desired. As you tour the space, identify areas that are low, medium or high light. Areas nearest windows and sliding glass doors generally offer the best light for plant growth. The size and



exposure (north, south, east or west) of the windows will affect the amount of available light. In Colorado, southern exposures offer the brightest light during winter months and northern exposures offer the least.

The closer plants are to the glass, the more available light. If foliage is allowed to touch the glass during winter, freezing damage may occur. Roof overhangs, porches, awnings over windows will also reduce the available light as will drapes, sheers and blinds.

*Artificial lighting.* Sunlight provides the most complete light for plant growth, but not all indoor conditions provide adequate light intensity. Under these conditions, consider artificial light. Artificial light is available in many forms and can be tailored to needs and budget. White light yields the best light quality for plant growth, but plants respond to red, far red and blue light spectra as well. Green light, however, is not used by plants, but is



reflected. Many plants are photoperiodic or respond to the duration of lighting, especially flowering plants.

Fluorescent lamps provide uniform light that is blue saturated and, when combined with incandescent that provides red saturated light, provides a good light balance for plant growth. Plants grown under artificial light typically require 10 to 14 hours of light daily. There are lamps designed specifically for plant growth and are available at local nurseries, garden centers, plant specialty shops and electrical supply houses. High-intensity discharge lamps, including metal halide and sodium vapor, are available through plant specialty shops and electrical supply houses. These are more expensive to purchase and operate and also may require specialized installation. Always have a licensed electrician install any additional wiring that may be required and be certain the wiring and equipment meets minimum local and national electrical codes.

Typical office conditions use fluorescent lighting, which is adequate for good plant growth. For best results, plants grown under artificial light must be grown within 1 to 3 feet from the light fixture. This distance will be determined by the light requirements for the plant being grown.

## Temperature

Plants tolerate temperatures slightly lower or higher than ideal, but plant growth and quality will be affected. The temperature preferences of indoor plants are categorized as warm, intermediate and cool. Fortunately, the temperature of most indoor areas are compatible with the requirements of many plants. Daytime temperatures of offices and homes range between 65 to 75 F, with night temperatures within five to ten degrees. Often certain rooms are warmer or cooler than normal, which allows for a wider range of temperatures. Placement proximity to windows and window construction will also influence temperature.



### Temperature Needs for Interior Plants

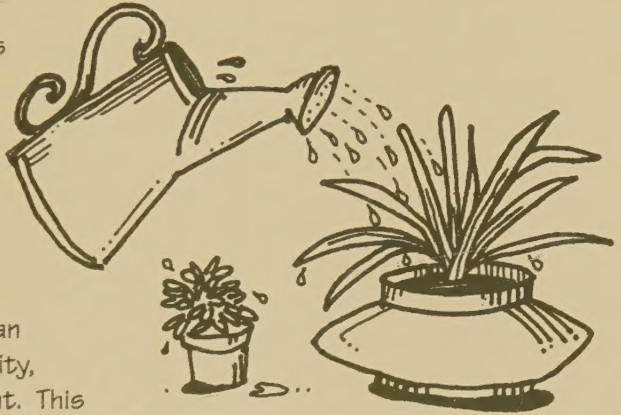
Warm	70 to 80 F (21 to 27 C) day
(W)	60 to 70 F (16 to 21 C) night
Intermediate	60 to 70 F (16 to 21 C) day
(I)	50 to 60 F (10 to 16 C) night
Cool	50 to 60 F (10 to 16 C) day
(C)	40 to 50 F (5 to 10 C) night

# Water and Humidity

Humidity, moisture in the air, can affect a plant's need for water. Plants use a process called transpiration to release water into the atmosphere through tiny openings in the leaves. High humidity slows this water loss through transpiration. Plants grown in indoor environments with low humidity will lose more water through transpiration and the root system will require more water.

During colder months, heating systems common to Colorado circulate dry, warm air throughout the building. Likewise, during the summer, air conditioning systems circulate dry, cool air. Both of these conditions create an environment of low humidity, often less than 10 percent. This is a drastic reduction from the 70 percent to 90 percent relative humidity level found in the native climates of most tropical plants. Plants located near heating or cooling vents may develop leaf spots or brown tips. Misting plants may help alleviate this condition, however, it must be done frequently to be effective and may promote some foliar diseases. A better solution is to place several plants together on a tray filled with gravel. Filling the tray with water provides the needed humidity required by many plants. Make sure that the bottom of the container does not stand in water since this causes water-logged soil and can result in root damage. Other humidification devices are helpful as well.

The amount of water that a plant requires and uses depends on the species and structure of the plant, the environmental conditions of light, temperature and humidity, the cultural conditions of soil, and the type of container. Rigid scheduling of watering may result in overwatering of some plants and allow some plants to become excessively dry. Be prepared to water plants on an individual basis, depending on need. There is no full-proof method to decide when a plant needs water. The most accurate method is to inspect the plant for signs of wilting and feel the soil for moisture. However, the plant may become overly stressed by using this system. Some plants prefer to have their root systems slightly dry before their next watering. It is better to regularly touch the soil for dryness below the soil





surface and water before any wilting is visible. Other plants require even moisture and do not tolerate dry roots. Water these plants when the top layer of soil feels dry.

The most convenient and efficient method of watering plants is to pour water on the soil surface. Make sure to completely cover the surface of the soil with water to prevent channeling of water in the pot allowing even water penetration. Plants do not tolerate waterlogged soil conditions and should not be allowed to stand in water. Place plants in saucers or trays to prevent water damage to floor or furniture. Apply only enough water to fill the tray and remove the water that collects in the tray after the plants have been irrigated. It's easier to pour excess water out if you water outside or in a sink or bathtub. If this is not convenient or the plant is too large to move, use a common kitchen basting bulb to remove the excess water.

Watering from the top generally is a better way to water than subirrigation. Subirrigation waters plants by placing the pot in a shallow amount of water in a tray or saucer and allowing the soil to draw the water up from the bottom via capillary action. Some plants, such as African violets and gloxinias, respond to this type of irrigation.

The majority of Colorado homes use water collected in mountain reservoirs from snow melt. This water is typically pure and ideal for plant growth. However, many homes use well water. Typical well water in Colorado has high alkalinity or sodium and may not be suitable for plant growth. Leaching the pots with each irrigation may prevent any damage to the plant, but it may be necessary to use distilled water for irrigation. Home water deionizers also improve the quality of water high in alkalinity or sodium. If you suspect that your water quality may not be suitable for plant growth, contact your Colorado State University Cooperative Extension county office for a water test.

## Soil

Soil provides water, nutrients, air, and anchorage for plants. The best potting soils provide a healthy balance of these components. Typical soil mixes include a blend of organic and inorganic particles. Native soil from the garden typically is not ideal for interior plants because proper drainage may not occur and pests may be present.

**Organic particles.** In most native soils, the amount of actual organic particles is low, usually less than 5 percent. These are comprised of residues of decaying plant and/or animal tissues. Adding organic material will benefit interior plants by increasing microbial activity, improving the structure of the soil and increasing the soil's ability to retain moisture. You





may add other organic particles to soil mixes, such as: sphagnum peat moss, bark, rotted sawdust, leaf mold and manures. These may be purchased at local garden centers. Potting soils that contain Colorado or mountain peat are highly variable and drain poorly. The addition of some organic particles may be a source of pathogens, especially when starting seeds.

Mixes may be pasteurized by heating the soil to 71 C or 160 F, for 30 minutes.

**Inorganic particles.** Inorganic particles include sand, silt and clay; all three occur naturally in the soil. The classification of the particles is made by particle size. The smallest is clay, silt is in between

and sand is the largest particle. The larger the particle size, the quicker the media will drain. Sand will drain faster than clay. However, this means that sand-based media will dry out faster. Media that is higher in clay will hold more water and hold onto nutrients tighter. A mix of sand, silt and clay (loam) is ideal.

Synthetic inorganic particles include perlite, vermiculite and others. Perlite is heat-treated volcanic rock. When heated to extreme temperature, it literally 'pops'. These particles loosen heavy soil, increase drainage and aeration, and are available in various sizes. Vermiculite is derived originally from mica, a naturally occurring substance, and may also be used to loosen soils. Vermiculite will retain some moisture and nutrients. Polystyrene fragments, another synthetic inorganic particle, lightens mixes and is generally not utilized.

**Air and water.** Plants need both air and water to survive. A balance of air and water along with the media, and the plant roots is important to the overall health of the plant. If a plant is water-logged, then the air space will not be available for the plant to carry on normal processes such as metabolism, transpiration and translocation. A good soil will provide ample pore space and good drainage yet also hold some moisture.



# Containers and Repotting

Choosing the proper container for the plant is very important. Select containers that allow drainage or place a layer of gravel or broken pot shards in the bottom of the pot to allow drainage. Ideally, the container should have drainage hole at the bottom of the plant. If not, problems with water-logged soil and root rots may occur. Decorative containers often do not have a drainage holes. A better alternative is to double pot, which serves as a decorative container while providing proper drainage for the plant. Place a small amount of gravel in the bottom of the decorative container and place the clay or plastic container inside. Porous ceramic pots allow more air to the roots than plastic, but also have a tendency to stain from water salts. Tall, narrow pots require a finer, textured soil than



short wide pots to maintain even moisture. Larger pots require less frequent irrigation. Decorative baskets may also be used with protection from drainage damage. Use a plastic saucer in the interior of the basket.

Select containers according to plant type. Succulent plants do better in unglazed clay containers and moisture-loving plants do better in a plastic container. Other containers include glazed clay, wire with coconut fiber and wooden. Avoid treated wood containers since this may affect plant growth and viability.

Plants eventually need to be repotted or transplanted. Avoid purchasing plants that have roots twined about in the container or are pot bound. Remove the container and examine the roots prior to purchase and periodically over the life of the plant. Once the plant is pot bound, the plant's growth may be restricted.

Purchase a container that is slightly larger than the present container. If it is over 2 inches larger in diameter, the plant will not respond well and root rot may occur. Use a clean container. If a container is reused, use 20 percent chlorine bleach solution with water and rinse thoroughly, or wash it in the dishwasher. Pathogens and insects may be transferred to the new plant if not thoroughly cleaned. Place media in bottom of the container. If the drainage hole is large, place a clean, broken shard of another pot over the hole. This will allow for drainage and reduce the loss of media through the



hole. Avoid leaving the roots exposed to the air during the transplanting process. Place the plant into the pot and fill in the sides with the new media. Roots may be teased or pulled out to induce new root growth. Avoid leaving any gap of air in the new media area. This may lead to tissue death. Water in, but avoid over-watering especially until the plant has regained its vigor. Resume fertilizer practices two to four weeks after transplant.

## Fertilizing Plants

There are 17 elements that are essential to plant growth. Plants use nitrogen (N), phosphorous (P) and potassium (K) in highest amounts. However, if a plant lacks any one element, then plant growth will be limited. Other essential elements include: calcium, magnesium, iron, carbon, hydrogen, oxygen, manganese, copper, boron, zinc, molybdenum, sulfur, chlorine, and nickel. Plants that grow rapidly will use these elements more readily than slow-growing plants. Synthetic media mixes often lack nutrients essential for plant growth and must be replaced or the plants will die.

Many forms and strengths of fertilizers are available. Select one that is convenient to use. The plant will not distinguish an expensive one from an inexpensive one. Fertilizers also are available in slow-release, quick release, granular, and liquid. Slow-release fertilizers are designed to release fertilizer over a long period of time, depending on temperature, type of plant and watering practices. They are available as three, six and nine-month formulations.

Over-fertilization may be a problem and can cause toxicity. Excess salts may burn foliage and damage roots. Typically, over fertilization results in a white crust on the surface of the soil and wilting foliage. If this happens, decrease the fertilizer and leach the salts out by applications of clear water.

## Insect and Mite Pests

Insects and mites are common problems occurring on interior plants. Proper identification of the pest is crucial for appropriate control. Many insect and mite infestations are difficult to control because pesticides labeled for use in interior environments are limited. In cases of severe infestation, it is often best to throw the plant away and purchase a new one. Inspect plants often to identify potential insect or mite outbreaks. It is easier to manage a small pest outbreak.

**Scale.** Scale insects suck plant juices resulting in branch die back,



stunted plants, discolored leaves, and/or leaf drop. Many scales secrete a sticky, sugary liquid called honeydew. Adult female scales are the most visually noticeable. They are sedentary, raised ovals ranging in size from as small as 0.5 mm to as large as 4.5 mm. The eggs of the insect are produced underneath the body of the female. Eggs hatch into crawlers, the mobile stage. Crawlers are flat, less than 1 mm-long and yellow or reddish in color. In an indoor environment, eggs continually hatch into crawlers, which then molt into nymphs. Nymphs do not move once they begin to feed on the plant. Soon after they attach themselves to the plant, the nymphs molt into adults.



Two types of scale insects are common pests of indoor plants, soft scales and hard or armored scales. Only soft scales produce honeydew. Plants affected by either of these insects include aglaonema, schefflera, arboricola, dracaenas, ficus, jade plant, English ivy, aralia, and most palms. Scale often is difficult to control. Prune infected branches and destroy heavily infested plants. Improve vigor of plants by improving root health and increasing the amount of light provided for the plant. Crawlers can be controlled with insecticides containing diazinon. Make sure the formulation is labeled for application on the particular plant as well as for scale control before use. Crawlers also can be controlled with applications of horticultural oils. Make sure a small amount of oil is tested on a portion of the plant before the whole plant is treated. Always take a plant outside before spraying. Adult scale usually are not affected by the chemical applications. Crawlers, however, often are continuously present on indoors plants. Two or three applications, two to three weeks apart, should bring the infestation under control.

*Spider mites.* Spider mites also feed on plant sap through leaves. Affected leaves take on a yellow, mottled appearance. Webbing often can be seen on leaves when mites are numerous. Spider mites, which are not insects but true spiders, are tiny and have eight legs. They can be seen best with a hand lens magnifier. Look for yellow orange, greenish or red mites on the under sides of leaves. Common spider mite species include the two-spotted spider mite and common red spider mite. Plants often attacked by spider





mites include aglaonema, aspidistra, dracaena, arboricola, schefflera, crotons, ficus, hibiscus, and most ferns, palms, aralias and pittosporum.

Spider mites are difficult to control when populations have been allowed to build up. Once a plant is heavily infested, total eradication is almost impossible. To manage mite problems, increase the humidity because dry, arid conditions favor these pests. Remove and destroy heavily infested plants. Try spraying plants weekly with a weak, soapy water solution. This is somewhat effective as a routine preventive. Mites also can be washed off of leaves with plain water. Do this daily to be effective. Houseplant insecticides labeled for spider mite control can also be used.

**Mealy bugs.** Mealy bugs are cottony-looking insects that suck plant juices. Their bodies are covered with white waxy-like threads. The waxy covering apparently protects the insects from predators. Normally located in crevices of plants, where leaves join stems, or along leaf veins, these insects will cause leaves to yellow and drop. Plants most commonly affected by mealy bugs include agalaonema, most ferns, some palms, ficus, some dracaenas, pothos, philodendron, Norfolk Island pine, arboricola, dieffenbachia, jade plant, and yucca.

Control of mealy bugs consists of pruning infested branches and removing and destroying heavily infested plants. Chemical control with insecticidal soap often is effective. For heavy infestations, spray a 10 percent mixture of alcohol and water directly onto the insects. For smaller infestations, dab the insects with a cotton swab dipped in alcohol. Repeat this procedure every week until the problem is under control. Make sure to test soap and alcohol mixtures on a small portion of the plant prior to full application because some plants may be sensitive to soap or alcohol.

**Whitefly.** When an infested plant is disturbed, the small-winged adults fly or flutter about. Adults look like a tiny white moth. These insects feed on plant juices and will produce honeydew. Look for them on the underside of leaves. Plant leaves will turn yellow and drop. Poinsettias commonly are affected. In fact, many whitefly infestations are started by bringing them into the house on poinsettia. Ivy, geranium, fuschia, bouvardia, hibiscus, lantana, fern and other plants are also susceptible. To control, remove and destroy plants that are severely infested. Chemical control of whiteflies is difficult, as eggs and immature stages are not susceptible to many insecticides. Insecticidal soaps and houseplant insecticides containing diazinon, pyrethrum or resmethrin may be effective.

**Fungus gnats.** Adult fungus gnats do little damage to plants, however, the tiny black flies are irritating as they fly around inside. Larvae (maggots) may feed on roots. Adult fungus gnats are slender flies about 2.5 mm- long. They easily are seen running quickly on soil in pots or on leaves. To control,

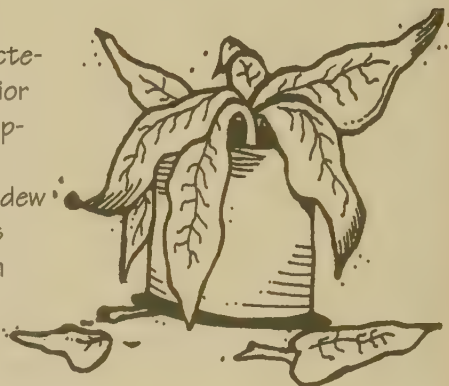


avoid over watering. Excess soil moisture favors these insects. Insecticides containing diazinon can be applied to the soil to kill larvae.

## Disease

Diseases caused by fungal and bacterial pathogens are not common on interior plants grown in Colorado. With one exception, our arid climate does not favor development of pathogens. Powdery mildew is a disease that thrives in dry climates and it is possible to find this problem on plants grown indoors.

**Powdery mildew.** Powdery mildew is caused by a fungus. Symptoms will appear as white, talcum powder-like growth on both the top and bottom of leaves. The white growth may cover the whole leaf or occur in small, sunken spots. Plants that are commonly affected include: African violet, begonia, grape ivy, kangaroo vine, jade plant, kalanchoe, and chrysanthemum (among others). Keep plants away from cold air drafts and avoid drought stress. Low light conditions may also encourage disease development. Wash leaves with a mild soap solution. Sulfur dust also can be used. However, sulfur leaves a residue and can cause leaf burning on some plants. Take the plant outside before applying sulfur and test a small portion of the plant first.





# MORE Tips

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## Bringing House Plants In for the Winter

by Nana Mejia, Horticulture Agent, Adams County

Here are some tips for bringing outdoor containers of grown foliage or flowering plants to inside for the winter.

1. Each container needs a good-sized saucer to catch water and protect the floor from accidents. Make sure that the saucer is wider than the base of the container and several inches deep to allow ample space for water. Remove water that has drained out of containers to prevent root rot problems.

2. Trim plants of dead leaves, twigs, flowers, and seed heads. Clean containers of plant litter that may harbor insects and mites seeking shelter from the cold. These critters are the number one problem with bringing plants into the house to save them from freezing. They usually emerge as room temperatures bring them out of their semi-dormant or slow-moving state, only to infest and weaken the plants. Use insecticidal soap to control insect and mite problems. Check the label for sensitive plants and spray tops and bottoms of leaves and stems for good coverage.

3. If there are other plants in the home or office, quarantine the newly-introduced plants in a separate and well-lit room. Otherwise, indoor foliage or flowering plants that are established and hopefully pest-free could become victims to insects or diseases that may have come in on the outside plants. Lighting is important. The summer sun offers more intense light for a long period of time while the plants are outside, as compared with the light available through the winter months indoors.

4. To provide additional lighting, set the plants near southern and western-facing windows. Or, leave lights on for the plants at a distance of 1 to 4 feet from the plants, with a timer for up to four additional hours each evening. This will supplement the lighting they get during the day to keep plants healthy so they can make their own food through photosynthesis.

5. Plants brought inside require attention to the amount of water and the frequency of watering. When plants are outside, they usually use the water they are given quickly in the presence of strong light and high temperatures. Once inside, these same plants may require less water due to reduced lighting and cooler temperatures. It may take a few weeks for you to adapt to the amount of water a plant will use in its new environment. Apply half the water you think it needs, wait a while for it to drain into the container and then add more if little or no water is in the saucer.



6. Finally, heat and proximity to drafty windows and doors affect the water needs of plants. Containers near heating ducts, furnaces and other heat sources will dry out quickly, especially if made of terra cotta, and the soils will stay warm. Assuming these plants get ample light and water, they will remain in a growth state throughout the season because the plant and the roots are happy.

7. Containers near windows that stay cold, or in drafty cool places will require less water than normal and the soils will be cold to the touch. These plants may stay in a "holding pattern", where they just maintain, not growing much through the season. Many plants can survive like this for a period of time assuming they get ample light, not too much water and the soil doesn't freeze. It generally is best to under water these dormant plants to prevent root rot.

8. As for fertility, read and follow the label instructions of most commercial indoor plant fertilizers with one exception. Use half the recommended rate given for indoor flowering and foliage plants to prevent excess growth, which could delay flowering or render the plants more susceptible to diseases, insects and mites.

## Leaching Soluble Salts from Soil of Foliage and House Plants by Nana Mejia Horticulture Agent, Adams County

The accumulated white to tan crust seen on the surface of soil of common interior foliage and house plants is a build up of soluble salts. Plant symptoms include wilting, and marginal and tip burn of the leaves (also called scorching) and yellowing. Excess soluble salts burn foliage, damage roots, and lead to plant problems with water uptake. For homeowners, this can be easily remedied in most cases. On a commercial level, the logistics of the remedy may be difficult to overcome, but in both cases, prevention is important. Once the problem is obvious, leaching the salts from the soil is the only remedy.

Soluble salts accumulate on the outside of clay pots, on the surface of potting soil, around drainage holes on pots and even on the stems of plants themselves. Such salts come from the soil, from applied fertilizers, or from high salts in the water used to irrigate the plants. By a process called "capillary action," these salts rise to the surface of the soil as a result of watering, especially when the plant's pot sits in a saucer. Excess salts cannot drain away when saucers keep water next to the container and the water is re-absorbed. Problems occur when these salts get so concentrated that they cause plant health problems, like wilting, yellowing and scorching of the leaves, as mentioned above.





To remedy this situation, try these easy steps. The majority of the salts can be leached from the soil using this method.

1. Carefully remove the white crust and some of the soil on the surface, and discard it. About ½ inch to 2 inches of soil usually can be taken off of the top of the rootball without injury to the plant (depending on the size of the plant, of course. For example, less should be taken from a 6-inch potted *Sansevieria* than a 10-inch tall potted *Ficus*.)

2. Remove the saucer and stand the pot in the sink, or on the ground where water can drain freely. Using ordinary tap water at a cool, but not cold temperature, rinse the soil to leach out the soluble salts by filling the pot to the top with water and waiting for the soil to drain well. Make sure drainage holes are not plugged. Repeat this process several times allowing the soil to drain well between rinsing. (It may be necessary to repeat this process six to eight times, in extreme cases of excessive salts.) Allow the plant to drain well. Although this could take an hour or so, do not skip this step; it is the most important one!

3. Scrape any excess salts from the outside of the pot, the drainage holes and the saucer. Using warm soapy water, clean and rinse the saucer. Allow saucer to dry well.

4. Replace the soil taken from the surface with fresh, sterile, good quality potting mix from a reputable garden center or nursery once steps 2 and 3 are complete. Water lightly.

Return the pot and its saucer to their original location in the home or commercial setting. Begin watering the plant only when the original soil feels dry to the touch. Repeat these steps as needed, about every four to six months. Or, prevent soluble salt build up by reading and following label directions for foliage and indoor plant fertilizers. Please note that under-fertilizing is almost always a good idea for interior foliage and house plants. Also, try standing the pot on a layer of gravel. This will allow for good drainage with out the re-absorption of water that has come out of the drainage holes, which carries high amounts of salts.



# Table of Selected Interior Plants

Common Name	Scientific Name	Light Requirement	Exposure	Water Requirement	Humidity (optional)	Temp. (optional)	Notes
African Violet	Saintpaulia ionantha	Moderate (M) to High (H)	East (E), West (W) or W	Evenly moist	45 to 65 percent	Intermediate (I)	Attractive Flowers
Aluminum Plant, Pilea	Pilea cadieri	M to H	E or W	Evenly moist	45 to 65 percent	I	Attractive Foliage
Amaryllis	Hippeastrum vittatum	H	E, W or South (S)	Evenly moist	45 to 65 percent	I	Attractive Flowers or Foliage
Artillery Plant	Pilea microphylla	M	E or W	Evenly moist	45 to 65 percent	Cool (C)	Attractive Foliage
Asparagus Fern	Asparagus sp.	Low (L) to H	North (N), S, E, or W	Evenly moist	45 to 65 percent	I	Attractive Foliage
Aspidistra - Cast Iron Plant	Aspidistra elatior	L to M	N, E or W	Evenly moist	30 to 45 percent	C	Attractive Foliage
Aucuba	Aucuba japonica	M to H	E or W	Evenly moist	30 to 45 percent	C	Attractive Foliage
Avocado	Persea americana	H	E, W or S	Evenly moist	45 to 65 percent	I	Attractive Foliage
Azalea	Rhododendron spp.	H	S or E	Evenly moist	Above 60 percent	C	Attractive Flowers and Foliage
Baby's Tears	Helixine soleirolia	L to M	N or E	Evenly moist	45 to 65 percent	I	Attractive Foliage
Begonia - Fibrous	Begonia spp.	H	E, W or S	Evenly moist	45 to 65 percent	I	Attractive Flowers and Foliage
Begonia rex-cultorum	Begonia rex-cultorum	M to H	E or W	Evenly moist	45 to 65 percent	C	Attractive Flowers and
Foliage							
Begonia - Wax	Begonia semperflorens	H	E, W or S	Evenly moist	45 to 65 percent	C	Attractive Foliage
Bougainvillea	Bougainvillea glabra	H	S or E	Evenly moist	45 to 65 percent	I	Attractive Flowers
Bromeliads -	Ananas sp.	H	S or E	Approach dry between waterings	45 to 65 percent and above	I	Attractive Foliage and Fruit
Bromeliads - Earth Stars	Cryptanthus sp.	L to M	E or W	Evenly moist	45 to 65 percent and above	I	Attractive Foliage
Bromeliads -no common name	Tillandsia sp.	H	E or W	Dry out between waterings	45 to 65 percent	I	Attractive Flowers and Foliage

Bromeliads - Flaming sword	Vriesea sp.	L to M	E or W	Approach dry between waterings	45 to 65 percent	I	Attractive Flowers and Foliage
Cacti - Bishop's Cap	Astrophytum sp.	H	E or W	Dry out between waterings	30 to 45 percent	I	Attractive Flowers and Foliage
Cacti - Barrel	Echinopsis spp.	H	E or W	Dry out between waterings	30 to 45 percent	I	Attractive Flowers, Foliage and Fruit
Cacti - Christmas cactus	Schlumbergera spp.	M to H	E, W or S	Evenly moist	45 to 65 percent	I	Attractive Flowers and Foliage
Cacti - Thanksgiving cactus	Zygocactus spp.	M to H	E, W or S	Evenly moist	45 to 65 percent	I	Attractive Flowers and Foliage
Chenille Plant	Acalypha hispida	H	S or E	Approach dry between waterings	30 to 45 percent	I	Attractive Flowers
Chinese Evergreen	Aglaonema spp.	Very Low [L], to M	E, W or S	Evenly moist	30 to 45 percent	I	Attractive Flowers
Christmas chery, Jerusalem chery	Solanum pseudocapsicum	H	E	Evenly moist	45 to 65 percent	C	Attractive Fruit
Chrysanthemum	Dendranthema grandiflora	H	E	Evenly moist	30 to 45 percent	I	Attractive Flowers and Foliage
Citrus	Citrus spp.	H	E, W or S	Evenly moist	45 to 65 percent	I	Attractive Foliage
Clerodendrum, Glory-bower, Bleeding Heart	Clerodendrum spp.	H	E, W or S	Evenly moist	45 to 65 percent	I	Attractive Flowers and Foliage
Clivia	Clivia spp.	H	S or E	Evenly moist	30 to 45 percent	I	Attractive Flowers
Coffee	Coffea sp.	H	E or S	Keep wet at all times to evenly moist	45 to 65 percent	I	Attractive Flowers and Foliage
Coleus	Coleus spp.	M to H	E, W or S	Keep wet at all times to evenly moist	30 to 65 percent	I	Attractive Foliage
Copperleaf	Acalypha wilkesiana	H	E	Approach dry between waterings	45 to 65 percent	C	Attractive Flowers
Croton	Codiaeum spp.	H	E	Evenly moist	30 to 65 percent	I	Attractive Foliage
Cyclamen	Cyclamen persicum	H	E	Evenly moist	45 to 65 percent or higher	C	Attractive Flowers and Foliage



Table of Selected Interior Plants

Common Name	Scientific Name	Light Requirement	Exposure	Water Requirement	Humidity (optional)	Temp. (optional)	Notes
Dieffenbachia	Dieffenbachia spp.	VL to M	E or N	Approach dry between waterings	30 to 45 percent	I	Attractive Foliage
Dizygotheca	Dizygotheca	M to H	E or N	Evenly Moist	30 to 45 percent	C	Attractive Foliage
False aralia	elegantissima						
Dracaena, Corn Plant	Dracaena spp.	VL to M	E, N or W	Keep wet at all times	45 to 65 percent	I	Attractive Foliage
Easter Lily	Lilium longiflorum	H	S or E	Approach dry between waterings	30 to 45 percent	C	Attractive Foliage and Flowers
Fatschedera, Tree Ivy	Fatschedera lizei	M to H	E, W, N or S	Evenly Moist	30 to 45 percent	C to I	Attractive Foliage
Ferns:	Asplenium nidus	VL to L	E or N	Evenly Moist	30 to 45 percent	C	Attractive Foliage
Birdsnest							
Ferns:	Nephrolepis exaltata	L to M	E or N	Evenly Moist	30 to 45 percent	I	Attractive Foliage
Fluffy Ruffles	'Fluffy Ruffles'						
Ferns:	Adiantum spp.	L to H; Winter direct sun	E or N	Keep wet at all times	45 to 65 percent or higher	I	Attractive Foliage
Maidenhair							
Ferns:	Davallia tejeensis	L to M	E or N	Evenly Moist	45 to 65 percent or higher	C	Attractive Foliage
Rabbit's Foot							
Ferns:	Platynerium bifurcatum	M to H	E or W	Evenly Moist	45 to 65 percent or higher	I	Attractive Foliage
Staghorn							
Figs:	Ficus pumila	M to H	E or W	Evenly Moist	45 to 65 percent	I	Attractive Foliage
Creeping Ficus							
Figs:	Ficus deltoidea	M to H	E or W	Evenly Moist	30 to 65 percent	I	Attractive Foliage
Mistletoe Fig							
Figs:	Ficus elastica	L to H	E, N, W or S	Evenly Moist	30 to 65 percent	I	Attractive Foliage
Rubber Plant							
Weeping Fig	Ficus benjamina	M to H	E, W or S	Evenly Moist	45 to 65 percent	I	Attractive Foliage
Fittonia, Nerve Plant	Fittonia spp.	L	N or E	Evenly Moist	45 to 65 percent or higher	C	Attractive Foliage

Flame Violet, Episcia Flowering Maple	Nauticalyx spp. Abutilon spp.	M to H H	E, W or S E	Evenly Moist Evenly Moist	45 to 65 percent 30 to 65 percent	W I	Attractive Flowers Attractive Foliage and Flowers
Geranium	Pelargonium spp.	H	E, W or S	Approach dry between	30 to 65 percent	I	Attractive Foliage and Flowers
Geranium Ivy Parlor Ivy Flowers	Pelargonium peltatum	H	E, W or S	Approach dry between	30 to 65 percent	I	Attractive Foliage and Flowers
Ginger	Zingiber spp.	H; Winter direct sun	E	Evenly Moist	45 to 65 percent or higher	I	Attractive Foliage
Gloxinia	Sinningia spp. 'Variegata'	M to H	E	Evenly Moist	45 to 65 percent	I	Attractive Flowers
Goldust Plant	Aucuba japonica	L to H	E or W	Approach dry between waterings	30 to 45 percent	I	Attractive
Foliage							
Grape Ivy	Cissus rhombifolia	L to M	E, W or N	Evenly Moist	45 to 65 percent	I	Attractive Foliage
Gynura	Gynura scandens	M to H	E or W	Evenly Moist	45 to 65 percent	I	Attractive Foliage
Purple Robe, Velvet plant							
Hawaiian ti	Cordyline terminalis	L to H	E, W, N, or S	Evenly Moist	45 to 65 percent	I	Attractive Flowers
Heath, Heather	Erica spp.	H	E, W or S	?	45 to 65 percent	I	Attractive Flowers
Hibiscus	Hibiscus rosasinensis	H	E, W or S	Evenly Moist	45 to 65 percent	I	Attractive Foliage and Flowers
Chinese Hibiscus							
Hydrangea	Hydrangea macrophylla	H	E or S	Keep wet at all times to evenly moist	30 to 45 percent	C	Attractive Flowers
Ivy (Algerian) Ivy (English)	Hedera canariensis Hedera helix	H M	E, W or S N, S or E	Evenly Moist Evenly Moist to dry between watering	30 to 45 percent 30 to 65 percent	C C	Attractive Foliage Attractive Foliage
Jasmine	Jasminum spp.	M	E or S	Evenly Moist	30 to 65 percent	C	Attractive Foliage and Flowers
Lipstick Vine Ming Aralia, Polycias	Aeschynanthus sp. Polycias spp.	H M to H; direct winter sun	E, W or S E, W or S	Evenly Moist Evenly Moist	45 to 65 percent 45 to 65 percent	C C	Attractive Flowers Attractive Flowers

## Table of Selected Interior Plants

Common Name	Scientific Name	Light Requirement	Exposure	Water Requirement	Humidity (optional)	Temp. (optional)	Notes
Monkey puzzle	Araucaria araucana	H	E, W or S	Evenly Moist	45 to 65 percent	I	Attractive Foliage
Monstera	Monstera spp.	M to H	E, W, S or N	Evenly Moist	30 to 65 percent	C	Attractive Foliage
Mother-in-law	Sansveria spp.	VL to H	E, W, S or N	Approach dry between waterings	30 to 45 percent	C	Attractive Foliage
Snake Plant	Syngonium spp.	VL to M	E or N	Evenly Moist	30 to 45 percent	I	Attractive Foliage and Flowers
Nephthytis, Arrowleaf	Araucaria heterophylla	H	E, W or N	Evenly Moist	45 to 65 percent	C	Attractive Foliage
Orchids:	Cattleya spp.	H	E	Dry between waterings	65 percent or higher	I	Attractive Flowers
Orchids:	Cymbidium spp.	H	E	Evenly Moist	30 to 45 percent	C	Attractive Flowers
Orchids:	Dendrobium spp.	M	S or W	Approach dry between waterings	30 to 45 percent	I	Attractive Flowers
Orchids:	Vanda spp.	M	E	Evenly Moist	30 to 45 percent	W	Attractive Flowers
Palms:	Phoenix roebelenii	M	E	Evenly Moist	30 to 45 percent	I	Attractive Foliage
Dwarf Date Palm	Caryota spp.	H	E or S	Keep wet at all times	45 to 65 percent	W	Attractive Foliage
Palms:	Chamaedorea elegans	VL to L	N or E	Dry between waterings	?	I	Attractive Foliage
Palms:	Senecio mikanioides	Winter direct sun	E, W or S	Evenly Moist	45 to 65 percent	C	Attractive Flowers and Foliage
Palms:	Peperomia spp.	M	E, W or N	Dry between waterings	45 to 65 percent	I	Attractive Foliage
Palms:	Philodendron spp.	VL to M	E, W or N	Evenly Moist	30 to 65 percent	I	Attractive Foliage
Piggyback Plant	Tolmiea menziesii	L to H	E or W	Evenly Moist	45 to 65 percent	I	Attractive Foliage
Pittosporum (Japanese)	Pittosporum tobira	H	S, E or W	Evenly Moist	45 to 65 percent	C	Attractive Flowers and Foliage



Ponytail	Beaucamea recurvata	M to H	S, E or W	Approach dry between waterings	30 to 45 percent	I	Attractive Foliage
Pothos, Devil's Ivy	Scindapsus spp.	VL to H	N, E or W	Evenly Moist	45 to 65 percent	I	Attractive Foliage
Prayer Plant	Maranta spp.	M	E or W	Evenly Moist	45 to 65 percent	I	Attractive Foliage
Rosary Vine	Ceropegia spp.	H	S, E or W	Dry between waterings	45 to 65 percent	I	Attractive Foliage
Schefflera	Brassala spp.	M	S, E or W	Approach dry between waterings	30 to 45 percent	I	Attractive Foliage
Umbrella Plant	Justicia spp.	H	S, E or W	Dry between waterings	45 to 65 percent	I	Attractive Foliage
Shrimp Plant, Beloperone	Spathiphyllum spp.	VL to M	E or W	Evenly Moist	45 to 65 percent	W	Attractive Foliage and
Spathe	Chlorophytum spp.	L to M	E or W	Evenly Moist	45 to 65 percent	I	Attractive Foliage
Spider Plant, Airplane Plant	Trachebospermum	Winter direct sun	S or E	Approach dry between waterings	30 to 45 percent	I	Attractive Foliage and Flowers
Star-jasmine	Jasminoides	H	S or E	Evenly Moist	45 to 65 percent	I	Attractive Flowers
Stephanotis	Stephanotis floribunda	M to H	E or N	Evenly Moist to approaching dry between waterings	45 to 65 percent	C	Attractive Foliage and Flowers
Strawberry Geranium	Saxifraga stolonifera	H	S or E	Evenly Moist	45 to 65 percent	C	Attractive Foliage
String-of-pearls	Senecio rowleyanus	H	S or W	Evenly Moist	45 to 65 percent	I	Attractive Foliage and Flowers
Succulents:	Aloe spp.	H	S, E or W	Approach dry between waterings	30 to 45 percent	I	Attractive Flowers
no common name	Euphorbia spp.	H	W or S	Evenly Moist	45 to 65 percent	I	Attractive Flowers and Foliage
Succulents:	Lithops spp.	M to H	S, E or W	Evenly Moist	30 to 45 percent	I	Attractive Foliage
Poinsettia, Crown of thorns	Plectranthus spp.	M to H	E or W	Approach dry between waterings	30 to 45 percent	C	Attractive Foliage
Succulents:	Tradescantia spp.	M to H					
Living Stones, Stone Faces							
Swedish Ivy							
Wandering Jew, Inch Plant							

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